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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|---------------------|------------------|
| 10/774,446 | 02/10/2004 | Toshio Yamagiwa | 0505-1267P | 1682 |
| 2292 | 7590 | 11/09/2005 | | EXAMINER |
| BIRCH STEWART KOLASCH & BIRCH | | | | JULES, FRANTZ F |
| PO BOX 747 | | | | |
| FALLS CHURCH, VA 22040-0747 | | | ART UNIT | PAPER NUMBER |
| | | | 3617 | |

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/774,446 | YAMAGIWA ET AL. |
| | Examiner Frantz F. Jules | Art Unit 3617 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) 7-10 and 17-20 is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-6 and 11-16 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date ____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date ____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: ____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunya et al (US 6,752,711 B2) in view of Sheikh-Bahie (US 6,805,000).

Bunya et al discloses a mounting structure of a tire pressure sensing system in a tire pressure sensing system (41) in which a pressure sensor is placed on a wheel to sense pressure of a tire which is mounted on the wheel, wherein the wheel is a cast wheel for a vehicle including a rim portion where the tire is mounted, a hub portion provided at a center of the rim portion for mounting of the wheel to the vehicle, a disc portion connecting the rim to the hub and the air pressure sensor is placed in a boundary portion comprising collar between the rim portion and the spoke portions.

A recessed portion having a shape recessed toward the hub portion is provided, and the pressure sensor is placed in the recessed portion in accordance with claim 2.

The pressure sensor (41) being placed on an opposite side of an air valve which fills air in the tire in accordance with claims 3-4 as shown in figs. 2-3.

The pressure sensor (41) being placed on a side which is 180 degrees from the location of the air valve which fills air in the tire as they are mounted back to backing relation to the rim of the wheel in accordance with claim 5 as shown in figs. 2-3.

Bunya et al discloses all of the features as discloses above but does not disclose sensor with end portion extending outwardly for accommodating a rivet and a wheel comprising spoke portions connecting the rim portion and the hub portion. The general concept of providing a sensor with end portion extending outwardly for accommodating a rivet is well known in the art as illustrated by Sheikh-Bahaie which disclose the teaching of sensor with end portion (82) extending outwardly for accommodating a rivet. Also, the general concept of providing spoke portions to a wheel is well known in the art as illustrated by Sheikh-Bahie which disclose the teaching of a wheel comprising spoke portions. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bunya et al to include the use of a sensor with end portion extending outwardly for accommodating a rivet in his advantageous mounting structure as taught by Sheikh-Bahie in order to protect the sensor unit from damage during mounting as disclosed in col 1, line s 40-45. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bunya et al to include the use of spoke portions connecting the rim portion and the hub portion in his advantageous wheel as taught by Sheikh-Bahie in order to reduce the weight of the wheel while providing for air ventilation to the wheel axle thereby reducing overheating of the bearing axle.

Regarding using a rivet attachment as recited in claims 1 and 11, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bunya et al to include the use of a rivet connection in his advantageous system, as sensor mounting is a common and everyday occurrence throughout the wheel sensor attachment design art and the specific use of a rivet connection would have been an

obvious matter of design preference depending upon such factors as the loading imposed on the tire, the yield strength of the side wheel rim material, the speed of the vehicle; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the wheel which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

Response to Arguments

3. Applicant's arguments filed 09/20/2005 have been fully considered but they are not persuasive.

A. Summary of applicant's argument

The amendment of the claims place the application in condition for allowance because: none of the references of record meet the added claim limitations of the sensor having an end portion extending outwardly from opposite sides of the air pressure sensor and having a hole for accommodating a rivet.

B. Response to applicant's argument

In response to applicant's argument, it should be noted that the Shekh-Bahaie reference disclosing a sensor having end portions extending outwardly from the opposite sides establishes a *prima facie* case of obviousness to one of ordinary skill in the art. In addition, the use of a rivet attachment is a well known attachment system in the art of connecting two structures together.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Nigon et al are cited to show a closely related sensor comprising end portions with stud attachment.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 272-6681. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 272-6684. The fax phone

Art Unit: 3617

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules
Primary Examiner
Art Unit 3617

FFJ

November 6, 2005

FRANTZ F. JULES
PRIMARY EXAMINER

